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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,392

07/15/2005

Yuichi Mori

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CHRISTIE, PARKER & HALE, LLP
PO BOX 7068
PASADENA, CA 91109-7068

EXAMINER

HAYES, KRISTEN C

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,392	Applicant(s) MORI ET AL.	
	Examiner KRISTEN C. HAYES	Art Unit 3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Office Action mailed 06/29/2009 was not based on the most recent set of claims.

This subsequent action considers the claim amendment filed 02/20/2009.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4, 12 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. An integration strength is not previously mentioned or disclosed by the original specification (claim 4)

- b. The material laminated on the hydrophilic film is not previously disclosed as a film (Claims 12 and 13).

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. Claim 5 contains the abbreviation JIS L1092. The meaning of this abbreviation could change over time, or could be interpreted in different ways rendering the claim indefinite.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4, 7, 8 and 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Tonkin US Patent 6,615,537 in view of Wright EP Application 0 268 556.

9. Regarding claim 1, Tonkin discloses a plant cultivating system (Tonkin, Fig: 2) comprising a container (6) having a shape; a non-porous hydrophilic film (5) (Tonkin, column 3: lines 41-43) in contact with water (7). Not disclosed is the water containing fertilizer. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19. It would have been obvious to one of ordinary skill in the art at the time of the invention to add fertilizer to the water of Tonkin as taught by Wright as to provide a nutrient rich medium to the plants.

10. Regarding claim 2, Tonkin in view of Wright further discloses the film showing an electrical conductivity difference of 4.5 dS/m or less (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the instant application as showing a difference of less than 4.5 dS/m in electric conductivity in a water/saline solution system at the time four days after the start of measurement. The method used to determine the electrical conductivity is considered a product by process limitation. The product in such a claim

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is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

11. Regarding claim 3, Tonkin in view of Wright further discloses the film showing a Brix concentration difference of 4% or less (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the instant application as showing a Brix concentration difference of 4% or less in a glucose solution system at the time three days after the start of contact. The method used to determine the Brix concentration is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

12. Regarding claim 4, Tonkin in view of Wright further discloses a device with the limitations of claim 1 further characterized by the film showing a peeling strength of 10g or more with respect to the root of the plant body (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40); in that Tonkin discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the application as showing a peeling strength of 10g or more with respect to the root of the plant body at the time of day 35 at the inside of the film. Although Tonkin does not explicitly state that the peeling strength of the film is 10g or more, it would have been obvious to use such a film. The more force required to remove the film from the roots of the plant, the more likely that the film integrated with the roots. If a film with a peeling strength less than 10g might not fully integrate with the plant. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of

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Tonkin with a film showing a peeling strength of 10g or more to ensure that the film integrated with the roots of the plant.

13. Regarding claim 10, Tonkin in view of Wright further discloses the hydrophilic film being polyvinyl alcohol (Tonkin, column 4: line 61).

14. Regarding claim 7, Tonkin discloses a plant cultivating system (Tonkin, Fig: 2) comprising a container (6) having a shape; a non-porous hydrophilic film (5) (Tonkin, column 3: lines 41-43) in contact with water (7) and placed on the water in a manner such that the lower surface of the non-porous hydrophilic film is in contact with the surface of the water; a plant (4) on the non-porous hydrophilic film. Not disclosed is the water containing fertilizer or the roots of the plant growing on and integrated with the film. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19), and Wright a plant film integrate comprising a plant body (17) and a film (10) which has substantially been integrated with the root of the plant body (Wright, column 8: lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to add fertilizer to the water of Tonkin as taught by Wright as to provide a nutrient rich medium to the plants, and to integrate the plant body roots of Tonkin with the film, as taught by Wright to increase the strength and durability of the roots.

15. Regarding claim 8, Tonkin in view of Wright further discloses a plant-retaining support disposed on the non-porous hydrophilic film (Tonkin, column 5: line 65- column 6: line 5).

16. Regarding claim 11, Tonkin in view of Wright further discloses the film having a thickness of 10 microns (Tonkin, column 7: lines 39-40).

17. Regarding claim 12, Tonkin in view of Wright further discloses the film is added onto a porous film (as best understood) of another material (Tonkin, column 5: line 65-column 6: line 5). Not disclosed is the film being laminated to the other film. However, this is considered a

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product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966.

18. Regarding claim 13, Tonkin further discloses the porous film of another material comprising an unwoven polyethylene fabric having communicating pores (Tonkin, column 5: line 65-column 6: line 5).

19. Claims 1, 5 and 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori EP 1 203 525 in view of Wright EP Application 0 268 556.

20. Regarding claim 1, Mori discloses a plant-cultivating system comprising a container having a shape; a non-porous hydrophilic film (4) (Mori, ¶0042); wherein the container is filled with water (7). Not disclosed is the water containing fertilizer. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19. It would have been obvious to one of ordinary skill in the art at the time of the invention to add fertilizer to the water of Mori as taught by Wright as to provide a nutrient rich medium to the plants.

21. Regarding claim 5, Mori in view of Wright further discloses the film having a water impermeability of more than 10cm (Mori, page 5: lines 30, page 12: lines 52-53). The method used to determine the water impermeability is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

22. Regarding claim 6, Mori discloses a plant body (5) and a film (4) comprising a nonporous hydrophilic film (Mori, ¶0042) showing a peeling strength of 10g or more with respect to the root of the plant body (Mori, ¶0042-0043); in that Mori discloses film of a polyvinyl alcohol with a

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thickness of 40 μ m, which is one of the same films described in the specification of the application as showing a peeling strength of 10g or more with respect to the root of the plant body at the time of day 35 at the inside of the film. Not disclosed is the film being substantially integrated with the root of the plant body. Wright discloses a plant film integrate comprising a plant body (17) and a film (10) which has substantially been integrated with the root of the plant body (Wright, column 8: lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate the plant body roots of Mori with the film, as taught by Wright to increase the strength and durability of the roots, and for the film of Mori to have a peeling strength of 10g or more to ensure that the film integrated with the roots of the plant.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

23. The applicant argues that the fertilizer would not be able to pass through the film of Tonkin to reach the plant. However in claim 1, the fertilizer is not claimed as being in contact with the plant body through the film.

24. Also, the applicant points out that it is known in the art that hydrophilic membranes don't pass fertilizer, so it is unclear as to how to hydrophilic membrane of the invention would pass fertilizer differently from the membrane of Tonkin or Mori. The instant invention discloses that hydrophilic films or membranes can pass fertilizer as ions. The fertilizers of Wright are ions, therefore, the hydrophilic films of Tonkin and Mori would be able to pass the ion fertilizers of Wright.

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25. The affidavit under 37 CFR 1.132 filed 04/03/2009 is insufficient to overcome the rejection of claims 1, 6 and 7 based upon *35 USC 102 and 103* as set forth in the last Office action because: the affidavit cannot overcome a rejection under 35 USC 102. As to the 35 USC 103 rejection of claim 6, Mori and Wright is used to teach the film being substantially integrated with the root of the plant body, not the film being able to allow water containing fertilizer to contact a plant body. It is also unknown what the affidavit is attempting to prove.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTEN C. HAYES whose telephone number is (571)270-3093. The examiner can normally be reached on Monday-Thursday, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571)272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCH
5 August 2009

Peter Poon
Examiner
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/Peter M. Poon/

Supervisory Patent Examiner, Art Unit 3643